

1 APPLICATION FOR UNITED STATES LETTERS PATENT

2 ON INVENTION FOR:

3 FUSIBLE ELECTRIC SLIDE SWITCH

4 BY INVENTORS: Robert M. Tuniewicz,
5 Gilbert D. Talamo and Edwin Unser

6 *****

7 Agt. Doc. No.: TUNR14C

8 *****

9 RICHARD L. MILLER, REGISTERED PATENT AGENT
10 REG. No.: 26,309, CUSTOMER No.: 000041681
11 12 PARKSIDE DRIVE
12 DIX HILLS, NEW YORK 11746-4879
13 PHONE: (631) 499-4343

14 *****

15 TO ALL WHOM IT MAY CONCERN:

16 BE IT KNOWN that I, Robert M. Tuniewicz, a citizen
17 of THE UNITED STATES OF AMERICA and resident of: Mt. Sinai,
18 NY 11766, Gilbert D. Talamo, a citizen of THE UNITED STATES
19 OF AMERICA and resident of: Great River, NY 11739 and Edwin
20 Unser a citizen of THE UNITED STATES OF AMERICA and resident
21 of Williston Park, NY 11596 have invented certain new and
22 useful improvements in a: FUSIBLE ELECTRIC SLIDE SWITCH of
23 which the following is a full, clear, concise and exact
24 description:

1 Inventors: Robert M. Tuniewicz, Gilbert D. Talamo, and Edwin Unser
2 Invention: FUSIBLE ELECTRIC SLIDE SWITCH
3 DOC. No.: TUNR14C

4 CROSS REFERENCE TO RELATED APPLICATIONS

5 The instant application is a nonprovisional application of U.S.
6 provisional application number 60/461,184, filed on April 09, 2003, and
7 entitled FUSIBLE ELECTRIC SLIDE SWITCH, and it is respectfully
8 requested that this application be accorded the benefit under 35 USC
9 119(e) of said U.S. provisional application.

10 BACKGROUND OF THE INVENTION

11 Field of the Invention:

12 The present invention relates to an electric slide switch, more
13 particularly, the present invention relates to a fusible electric slide
14 switch.

15 Description of the Prior Art:

16 Numerous innovations for electric slide switches have been provided
17 in the prior art that will be described. Even though these innovations
18 may be suitable for the specific individual purposes to which they
19 address, however, they would not be suitable for the purposes of the
20 present invention as heretofore described.

1

SUMMARY OF THE INVENTION

2 ACCORDINGLY, AN OBJECT of the present invention is to provide a
3 fusible electric slide switch that avoids the disadvantages of the prior
4 art.

5 ANOTHER OBJECT of the present invention is to provide a fusible
6 electric slide switch that is simple to use.

7 BRIEFLY STATED, STILL ANOTHER OBJECT of the present invention is to
8 provide a fusible electric slide switch. A fuse carrier is slidably
9 mounted to a base, and has a pair of recesses holding fuses. A cover
10 captures the fuse carrier between itself and the base, and has a pair of
11 through slots aligning with the pair of recesses when the fuse carrier is
12 in the off position so as to allow access to the fuses, and not aligning
13 with, so as to allow the cover to conceal, the pair of recesses when the
14 fuse carrier is in the on position so as to prevent contact with
15 electrical components by a user. The cover further has spring contacts
16 aligning with the pair of recesses when the fuse carrier is in the on
17 position so as to apply a force to maintain the fuses in the pair of
18 recesses.

19 The novel features which are considered characteristic of the
20 present invention are set forth in the appended claims. The invention
21 itself, however, both as to its construction and its method of operation,
22 together with additional objects and advantages thereof, will be best
23 understood from the following description of the specific embodiments when
24 read and understood in connection with the accompanying drawing.

1

BRIEF DESCRIPTION OF THE DRAWING

2 The figures of the drawing are briefly described as follows:

3 FIGURE 1 is a diagrammatic front elevational view of the present
4 invention in the off position;

5 FIGURE 2 is a diagrammatic cross sectional view taken along LINE 2-2
6 in FIGURE 1;

7 FIGURE 3 is diagrammatic front elevational view taken generally in the
8 direction of ARROW 3 in FIGURE 2 of the present invention in
9 the on position;

10 FIGURE 4 is an exploded diagrammatic front perspective view of the base
11 of the present invention identified by ARROW 4 in FIGURES 1-3;

12 FIGURE 5 is an exploded diagrammatic cross sectional view taken along
13 LINE 5-5 in FIGURE 4;

14 FIGURE 6 is an exploded diagrammatic front perspective view of the fuse
15 carrier of the present invention identified by ARROW 6 in
16 FIGURES 1-3;

17 FIGURE 7 is a diagrammatic rear perspective view taken generally in the
18 direction of ARROW 7 in FIGURE 6;

19 FIGURE 8 is a diagrammatic rear perspective view of the cover of the
20 present invention identified by ARROW 8 in FIGURES 1-3; and

21 FIGURE 9 is a diagrammatic cross sectional view taken along LINE 9-9
22 in FIGURE 8.

1

LIST OF REFERENCE NUMERALS UTILIZED IN THE DRAWING

2 10 fusible electric slide switch of present invention
3 12 base
4 14 fuse carrier
5 16 cover
6 18 back portion of base 12
7 20 top portion of base 12
8 22 uppermost edge of back portion 18 of base 12
9 24 forwardmost surface of back portion 18 of base 12
10 25 lowermost edge of back portion 18 of base 12
11 26 plurality of electrical terminals of base 12
12 27 lowermost surface of top portion 20 of base 12
13 28 plurality of electrical lands of base 12
14 30 plurality of electrodes of plurality of electrical lands 28 of
15 base 12
16 32 pair of plates of base 12
17 33 blind bore in one plate of pair of plates 33 of base 12
18 34 plunger assembly of base 12
19 36 blind bore in lowermost surface 27 of top portion 20 of base 12
20 of plunger assembly 34 of base 12
21 38 plunger of plunger assembly 34 of base 12
22 40 spring of plunger assembly 34 of base 12
23 42 forwardmost surface of fuse carrier 14
24 44 rearwardmost surface of fuse carrier 14
25 46 pair of sidewardmost surfaces of fuse carrier 14
26 47 uppermost surface of fuse carrier 14
27 48 pair of recesses in forwardmost surface 42 of fuse carrier 14 for
28 holding pair of fuses (not shown), respectively
29 50 two pair of electrodes of fuse carrier 14
30 52 tails of two pair of electrodes 50 of fuse carrier 14
31 54 handle of fuse carrier 14

1 56 pair of jumper electrodes of fuse carrier 14
2 58 plunger assembly of fuse carrier 14
3 60 blind bore in rearwardmost surface 44 of fuse carrier 14 of
4 plunger assembly 58 of fuse carrier 14
5 62 plunger of plunger assembly 58 of fuse carrier 14
6 64 spring of plunger assembly 58 of fuse carrier 14
7 65 stop assembly of fuse carrier 14
8 66 blind slot in uppermost surface 47 of fuse carrier 14 of stop
9 assembly 65 of fuse carrier 14
10 68 pawl of stop assembly 65 of fuse carrier 14
11 70 rearwardmost surface of cover 16
12 72 pair of through slots in cover 16
13 74 secondary through slot in cover 16
14 76 two pair of spring contacts of cover 16 for applying force to and
15 maintain fuses (not shown) in pair of recesses 48 in forwardmost
16 surface 42 of fuse carrier 14

1

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

2 Referring now to the figures, in which like numerals indicate like
3 parts, and particularly to FIGURES 1-3, the fusible electric slide switch
4 of the present invention is shown generally at 10.

5 The fusible electric slide switch 10 comprises a base 12, a fuse
6 carrier 14, and a cover 16. The fuse carrier 14 is slidably mounted to
7 the base 12, and the cover 16 maintains the fuse carrier 14 slidably
8 mounted to the base 12.

9 The configuration of the base 12 can best be seen in FIGURES 4 and
10 5, and as such, will be discussed with reference thereto.

11 The base 12 has a back portion 18 and a top portion 20. The back
12 portion 18 of the base 12 has an uppermost edge 22, a forwardmost surface
13 24, and a lowermost edge 25. The top portion 20 of the base 12 has a
14 lowermost surface 27, and extends forwardly from the uppermost edge 22 of
15 the back portion 18 of the base 12 so as to be generally inverted L-shaped
16 in lateral cross section.

17 The base 12 further has a plurality of electrical terminals 26. The
18 plurality of electrical terminals 26 of the base 12 are disposed on the
19 forwardmost surface 24 of the back portion 18 of the base 12, adjacent the
20 lowermost edge 25 of the back portion 18 of the base 12.

21 The base 12 further has a plurality of electrical lands 28. The
22 plurality of electrical lands 28 of the base 12 have a plurality of
23 electrodes 30, respectively, are disposed on the forwardmost surface 24
24 of the back portion 18 of the base 12, and electrically communicate with
25 the plurality of electrical terminals 26 of the base 12, respectively.

26 The base 12 further has a pair of plates 32. The pair of plates 32
27 of the base 12 are disposed on the forwardmost surface 24 of the back
28 portion 18 of the base 12 and cover the plurality of electrical lands 28
29 of the base 12, except for the plurality of electrodes 30 of the plurality
30 of electrical lands 28 of the base 12.

31 One plate 32 of the base 12 has a blind bore 33.

1 The base 12 has a plunger assembly 34. The plunger assembly 34 of
2 the base 12 comprises the lowermost surface 27 of the top portion 20 of
3 the base 12 having a blind bore 36 and a plunger 38 disposed in the blind
4 bore 36 in the lowermost surface 27 of the top portion 20 of the base 12
5 biased outwardly therefrom by a spring 40.

6 The configuration of the fuse carrier 14 can best be seen in FIGURES
7 5-7, and as such, will be discussed with reference thereto.

8 The fuse carrier 14 has a forwardmost surface 42, a rearwardmost
9 surface 44, a pair of sidewardmost surfaces 46, and an uppermost surface
10 47. The rearwardmost surface 44 of the fuse carrier 14 abuts against the
11 pair of plates 32 of the base 12 and the uppermost surface 47 of the fuse
12 holder 14 abuts against the lowermost surface 27 of the top portion 20 of
13 the base 12 as the fuse carrier 14 selectively slides sidewardly relative
14 to the base 12.

15 The forwardmost surface 42 of the fuse carrier 14 has a pair of
16 recesses 48 for holding a pair of fuses (not shown), respectively. The
17 pair of recesses 48 in the forwardmost surface 42 of the fuse carrier 14
18 are disposed adjacent the pair of sidewardmost surfaces 46 of the fuse
19 carrier 14, respectively.

20 The fuse carrier 14 further has two pair of electrodes 50 with tails
21 52. Each pair of electrodes 50 of the fuse carrier 14 are disposed in an
22 associated recess 48 in the forwardmost surface 42 of the fuse carrier 14
23 for electrically communicating with an associated fuse (not shown) and
24 have their tails 52 extend through the rearwardmost surface 44 of the fuse
25 carrier 14 and selectively electrically communicate with the plurality of
26 electrodes 30 of the base 12 as the fuse carrier 14 slides sidewardly
27 relative to the base 12.

28 The fuse carrier 14 further has a handle 54. The handle 54 of the
29 fuse carrier 14 extends generally centrally therethrough, from the
30 forwardmost surface 42 of the fuse carrier 14 to the rearwardmost surface
31 44 of the fuse carrier 14, and moves therewith.

1 The fuse carrier 14 further has a pair of jumper electrodes 56. The
2 pair of jumper electrodes 56 of the fuse carrier 14 electrically connect
3 associated ones of each pair of the two pair of electrodes 50 of the fuse
4 carrier 14 with each other.

5 The fuse carrier 14 further has a plunger assembly 58. The plunger
6 assembly 58 of the fuse carrier 14 comprises the rearwardmost surface 44
7 of the fuse carrier 14 having a blind bore 60 and a plunger 62. The
8 plunger 62 of the plunger assembly 58 of the fuse carrier 14 is disposed
9 in the blind bore 60 in the rearwardmost surface 44 of the fuse carrier
10 14, is biased outwardly therefrom by a spring 64, and enters the blind
11 bore 33 in the one plate 32 of the base 12 when the fuse carrier 14 is in
12 an on position.

13 The fuse carrier 14 further has a stop assembly 65. The stop
14 assembly 65 of the fuse carrier 14 comprises the uppermost surface 47 of
15 the fuse carrier 14 having a blind slot 66 extending therealong and a pawl
16 68. The pawl 68 of the stop assembly 65 of the fuse carrier 14 is
17 slidably mounted in the blind slot 66 in the uppermost surface 47 of the
18 fuse carrier 14 and selectively cooperates with the plunger assembly 34
19 of the base 12.

20 The configuration of the cover 16 can best be seen in FIGURES 8 and
21 9, and as such, will be discussed with reference thereto.

22 The cover 16 has a rearwardmost surface 70. The cover 16 captures
23 the fuse carrier 14 between itself and the base 12, with the rearwardmost
24 surface 70 of the cover 16 abutting the forwardmost surface 42 of the fuse
25 carrier 14 as the fuse carrier 14 selectively slides sidewardly relative
26 to the base 12 and the cover 16.

27 The cover 16 further has a pair of through slots 72. The pair of
28 through slots 72 in the cover 16 align with the pair of recesses 48 in the
29 forwardmost surface 42 of the fuse carrier 14 when the fuse carrier 14 is
30 in an off position for allowing access to the fuses (not shown), and do
31 not align with, so as to allow the cover 15 to conceal, the pair of
32 recesses 48 in the forwardmost surface 42 of the fuse carrier 14 when the

1 fuse carrier 14 is in an on position for preventing contact with
2 electrical components by a user.

3 The cover 16 further has a secondary through slot 74. The secondary
4 through slot 74 in the cover 16 extends sidewardly from one of the through
5 slots 72 in the cover 16, and has the handle 54 of the fuse carrier 14
6 extend therethrough and move therealong as the fuse carrier 14 traverses
7 the on an off positions thereof.

8 The cover 16 further has two pair of spring contacts 76. The two
9 pair of spring contacts 76 of the cover 16 are disposed on the
10 rearwardmost surface 70 of the cover 16. Each pair of the two pair of
11 spring contacts 76 of the cover 16 align with an associated one of the
12 pair of recesses 48 in the forwardmost surface 42 of the fuse carrier 14
13 when the fuse carrier is in the on position for applying a force to and
14 maintain the fuses (not shown) in the pair of recesses 48 in the
15 forwardmost surface 42 of the fuse carrier 14.

16 It will be understood that each of the elements described above, or
17 two or more together, may also find a useful application in other types
18 of constructions differing from the types described above.

19 While the invention has been illustrated and described as embodied
20 in a fusible electric slide switch, however, it is not limited to the
21 details shown, since it will be understood that various omissions,
22 modifications, substitutions and changes in the forms and details of the
23 device illustrated and its operation can be made by those skilled in the
24 art without departing in any way from the spirit of the present invention.

25 Without further analysis, the foregoing will so fully reveal the
26 gist of the present invention that others can, by applying current
27 knowledge, readily adapt it for various applications without omitting
28 features that, from the standpoint of prior art, fairly constitute
29 characteristics of the generic or specific aspects of this invention.